

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (currently amended) A joint endoprosthesis comprising:

 a body configured to replace a portion of a mammalian joint;

 at least one sensor supported by a first component of said body, said sensor adapted to sense an ambient condition of the mammalian joint and to generate a condition signal indicative of the sensed condition; and

 a transmission element supported by a second component of said body and operably connected to said sensor to receive said condition signal and operable to transmit a signal indicative of said condition signal.

Claim 2. (original) The joint endoprosthesis of claim 1, wherein said sensor is a temperature sensor and the ambient condition is temperature.

Claim 3. (original) The joint endoprosthesis of claim 1, wherein said sensor is a pH sensor and the ambient condition is pH.

Claim 4. (original) The joint endoprosthesis of claim 1, wherein said sensor is configured to determine the presence of a biological material.

Claim 5. (original) The joint endoprosthesis of claim 1, wherein said sensor is a configured to sense the presence of a pre-determined liquid.

Claim 6. (original) The joint endoprosthesis of claim 1, wherein said body is a component of a joint prosthesis selected from the group of a hip prosthesis, a knee prosthesis, a shoulder prosthesis and an elbow prosthesis.

Claim 7. (original) The joint endoprosthesis of claim 1, wherein said transmission element includes an alarm.

Claim 8. (original) The joint endoprosthesis of claim 1, wherein said transmission element includes a transmitter supported by said body and configured to transmit a signal to a receiver located outside the joint indicative of said condition signal.

Claim 9. (original) The joint endoprosthesis of claim 8, wherein said transmission element includes an antenna and a power source providing power to said antenna.

Claim 10. (original) The joint endoprosthesis of claim 1, further comprising a power source supported by said body and connected to provide power to said sensor and said communication element.

Claim 11. (original) The joint endoprosthesis of claim 10, wherein said power source is a passive power source.

Claim 12. (currently amended) A system for sensing a condition within a mammalian joint comprising:

an endoprosthesis including a body configured to replace a portion of the joint,
the body including a wire channel;

a sensor supported by said body, said sensor adapted to sense an ambient condition of the mammalian joint and to generate a condition signal indicative of the sensed condition;

a transmitter connected to said sensor through said wire channel to receive said condition signal and operable to transmit a transmission signal outside the joint indicative of said condition signal;

a receiver disposed outside the joint for receiving said transmission signal; and
translation circuitry for translating said transmission signal to a human sensible signal.

Claim 13. (original) The system for determining a condition within a mammalian joint of claim 12 wherein said translation circuitry includes an alarm.

Claim 14. (original) The system for determining a condition within a mammalian joint of claim 13, wherein said alarm is configured to produce an audible signal.

Claim 15. (original) The system for determining a condition within a mammalian joint of claim 13, wherein said alarm is configured to produce a vibration.

Claim 16. (original) The system for sensing a condition within a mammalian joint of claim 12, wherein said translation circuitry includes a display configured to produce a visually sensible signal.

Claim 17. (currently amended) A method for determining a condition within a mammalian joint comprising the steps of:

introducing a sensor within the joint, the sensor adapted to sense a temperature an ambient condition of the joint and to generate a sensor signal indicative of the temperature the ambient condition;

coupling the sensor with a transmission element operable to transmit an information signal outside the joint in response to the sensor signal;

sensing the ambient condition within the joint; ~~and~~

transmitting the information signal;

analyzing the information signal to determine when a temperature within the joint exceeds a predetermined setpoint; and

generating a human sensible warning signal in response to the determination that the temperature within the joint exceeds a predetermined setpoint.

Claim 18. (canceled)

Claim 19. (new) The method for determining a condition within a mammalian joint of claim 17, wherein introducing a sensor within the joint comprises:

placing the sensor within a ball portion of a prosthetic device used in a ball and socket joint.

Claim 20. (new) The method for determining a condition within a mammalian joint of claim 19, further comprising:

placing a second sensor within a socket portion of a prosthetic device used in the ball and socket joint.

Claim 21. (new) The method of claim 17, wherein coupling the sensor with a transmission element comprises:

connecting the sensor to the transmitter through a wire channel in a prosthetic device.